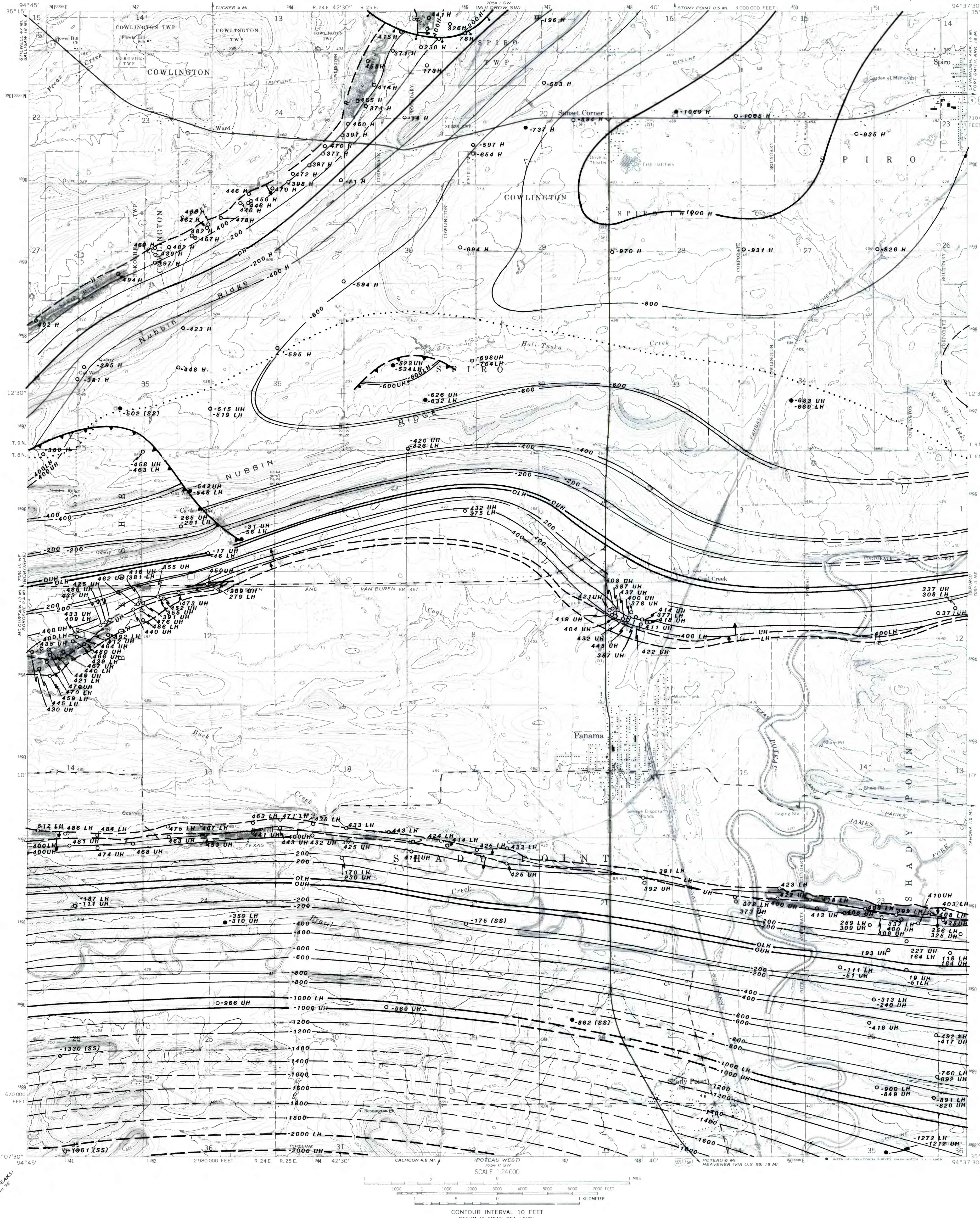


UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

PANAMA QUADRANGLE
OKLAHOMA-LE FLORE CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



- EXPLANATION**
- 1000 H —
 - 800 —
- STRUCTURE CONTOURS**-Drawn on top of the Hartshorne coal bed. Solid where vertical accuracy within 50 feet; long dashed where vertical accuracy possibly not within 50 feet; Machures indicate closed contours of basin. Contour interval is 200 feet (61.0m). Datum is mean sea level.
- 1000 UH —
 - 1200 —
- STRUCTURE CONTOURS**-Drawn on top of the Upper Hartshorne coal bed. Contour interval 200 feet (61.0m). Datum is mean sea level.
- 1000 LH —
 - 1200 —
- STRUCTURE CONTOURS**-Drawn on top of the Lower Hartshorne coal bed. Contour interval 200 feet (61.0m). Datum is mean sea level.
- 240UH
 - 313LH
- COAL TEST MEASUREMENT**-Showing altitude of top of coal beds, in feet. Drill holes which did not intersect the coal bed, or mine measured sections from which bed altitude could not be determined, are not shown.
- -1961(SS)
- OIL AND GAS TEST HOLE**-Showing altitude of top of the Hartshorne Sandstone Formation selected because of its close proximity to the Upper Hartshorne - Hartshorne coal zone in wells where the suits of logs was insufficient to verify coal occurrence. Wells for which logs of the first 3,000 foot (914.4m) interval were not available or wells whose logged interval began below the base of the Hartshorne Sandstone Formation are not shown. Appendix II structural top information which could not be verified is similarly not shown.
- H —
- INFERRED TRACE OF COAL BED OUTCROP**-Showing symbol of name of coal bed. Arrow points toward coal-bearing area.
- NORMAL FAULT**-Bar and ball on downthrown side.
- THRUST FAULT**-Sawtooth on upthrown or overthrust side. Dashed where approximately located.
- SPLIT LINE**-Line along which the Hartshorne Coal bed splits into the Upper and Lower Hartshorne coal beds. This line corresponds to the 1 foot (0.305m) interbedded isopach.
- NOTE:** Altitudes rounded to the nearest foot.
To convert feet to meters, multiply feet by 0.3048.

**FEDERAL COAL RESOURCE OCCURRENCE MAP OF THE PANAMA
7.5-MINUTE QUADRANGLE, LEFLORE COUNTY, OKLAHOMA**
BY GEOLOGICAL SERVICES OF TULSA, INC., B. T. BRADY, USGS, AND J. L. QUERRY, BLM

PLATE 5
STRUCTURE CONTOUR MAP OF
THE HARTSHORNE COAL BED AND
UPPER AND LOWER SPLITS

This report was prepared under contract to the U.S. Geological Survey, and has not been edited for conformity with Geological Survey editorial standards or stratigraphic nomenclature. Opinions expressed herein do not necessarily represent those of the Geological Survey.

COMPILED IN 1980
This map intended for land-use planning purposes only